



Related Research

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Research Labs/Groups

- **Networked and Distributed Systems**
- **Cryptography, Security and Privacy**
- **Wireless Networks**
- **Multimedia, Vision & Graphics**
- **Multi-Core Software Engineering**
- **Machine Learning and Information Retrieval**
- **Computational Systems Biology**
- **Artificial Intelligence**
- Full list: <http://eng.ku.edu.tr/research-labs>



NDSL Research Topics

■ Core Research

- Distributed computing and systems
- Bio-inspired epidemic algorithms
- Network protocols

■ Application Areas

- P2P Systems
- Energy Efficiency
- Cloud Computation
- Cloud Storage
- MANETs and VANETs
- Secure protocols
- Network traffic



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ÜNİVERSİTESİ



Analysis and Design of Advanced Multiservice Networks supporting Mobility, Multimedia, and Internetworking

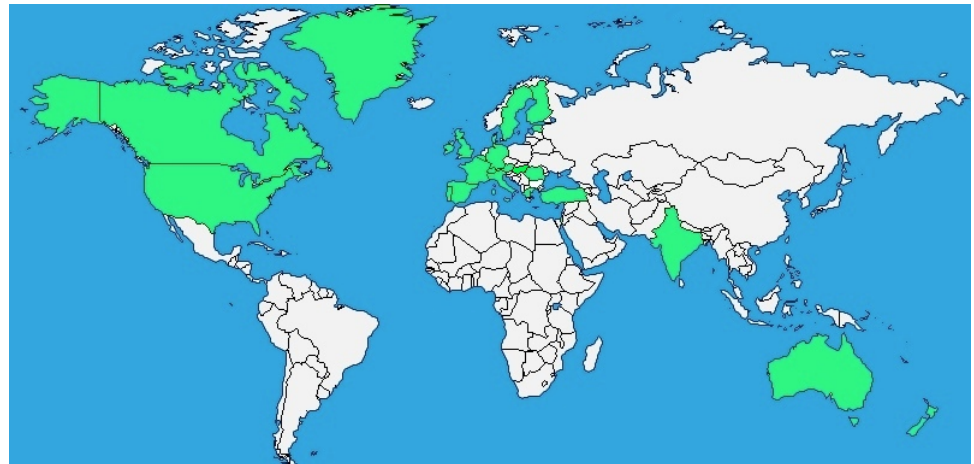
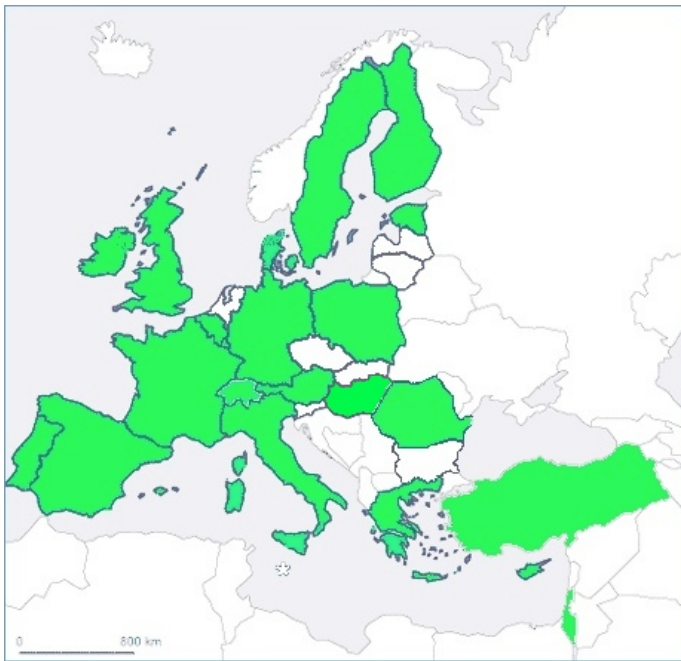




Energy efficiency in large scale distributed systems



- ▶ **European COST Action IC0804, partner**
- ▶ **22 COST countries + 7 Non-COST Institutions**
- ▶ **Goal: Energy efficient and realistic solutions for large scale distributed systems**





Adaptive actions for distributed systems



- ▶ **WG1: State of the art and continuous learning of hardware adaptation possibilities**
- ▶ **WG2: Characterization of energy consumption and energy efficiency**
- ▶ **WG3: Adaptive actions for distributed systems**
- ▶ **WG4: Characterization of performance-energy saving trade-off**
- ▶ **WG5: Scientific coordination, dissemination, and definition of a common opened framework; identification of pertinent use-cases**

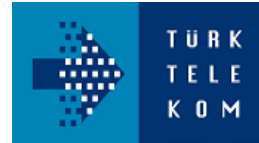




Energy efficiency in P2P Networks

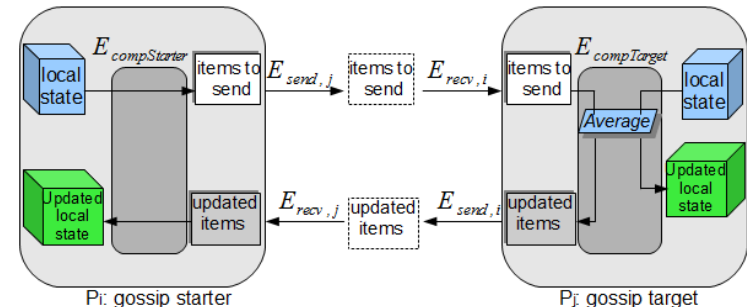


TÜBİTAK



▶ **Goal: To investigate and develop energy efficient algorithms and protocols by applying P2P principles:**

- ▶ Discovery of Frequent Items in P2P Networks
- ▶ Hierarchical Epidemics Model
- ▶ P2P Cloud: Task scheduling
- ▶ Secure and Energy Efficient Cloud Storage
- ▶ Epidemic Protocols for Inter-Vehicular Communication Networks





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